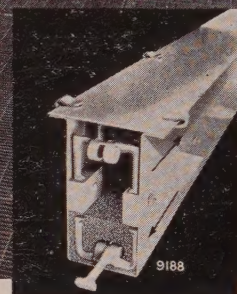


PREVENT FIRES

# Stop Explosions!

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CONVEYS EN MASSE

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Minimize explosion hazards by conveying grain en masse in REDLER CONVEYOR-ELEVATORS.

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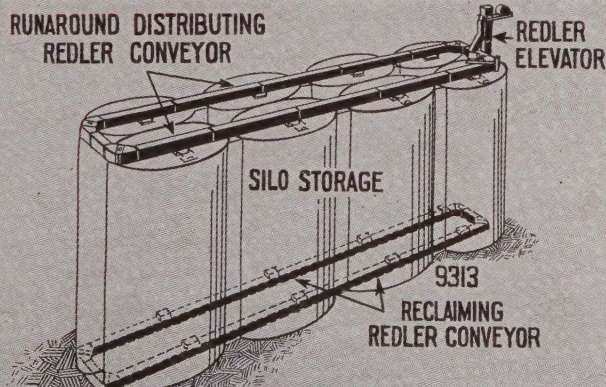
2. Gentle en masse conveying action prevents agitation.

3. REDLERS operate at slow speeds and contact points are made of non-sparking metals.

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REDLER CATALOG 42!



REDLER Conveyor-Elevators convey in any direction. As shown in drawing at left, REDLERS, discharge directly to required bin. Sufficiently increased storage can often be obtained by using REDLERS to cover the cost of the REDLER.

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May  
1938



# REPUBLIC BELTING *for* Grain Elevators

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Republic Grain Conveyor and Elevator Belting has all the qualities of an economical belt for handling grain in mills or elevators—28 oz. duck, straight ply construction and standard cover thickness 1/32". Extra covers and stitching are available. Tower Elevator Belting has rugged construction for excellent performance in terminal or line grain elevators and mills—32 oz. duck and standard cover thickness unless extra covers are desired.

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Users of Republic Belting—from the smallest of farmer elevators to the enormous terminal elevators—profit from a substantial lowering of handling costs. The savings come from not only the longer belting life but from continuous service and greater operating efficiency.

When you buy belting, be sure of its dependability. Get both the highest quality body fabric and the toughest, abrasion-resisting rubber by ordering Republic. Write for information.

### **GREAT LAKES SUPPLY CORPORATION**

9342 Ewing Avenue

*Grain Elevator Supply Division*

Chicago, Illinois

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Grain Elevator Supply Division:

Date.....

We are interested in, and request additional information on the following items:—

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# Editorial

By DEAN M. CLARK

## "WHO IS RESPONSIBLE"

It would be interesting and revealing to know just what percentage of the total safety appliances installed in the elevators are actually being used by the men. For obvious reasons it is impossible to obtain this figure but even a cursory glance at accident statistics brings out the fact that it must be fairly high.

Accidents do not just happen. There is always a definite cause. Some of these causes are seemingly beyond the power of the worker to avoid; others could have been controlled.

Chief among the causes of these accidents which could have been prevented is the failure of the victim to have utilized the safety appliances which have been provided for him. There is, of course, no excuse for this, but that is not the point. The point is; who is responsible—the victim?, the foreman?, the superintendent?

The injured worker naturally is the person who violated the safety code and whether or no it was unintentional makes not the slightest difference in the pain of his wounds nor in the compensation he receives. He is but the fact of the accident.

The foreman had seen to it that the men were provided with safety devices in his department and evidently had assumed that the workers would use them when necessary.

The superintendent saw that the injured man was hospitalized and his family taken care of. He then added up the mounting production costs of his plant and learned to the penny how great a factor accidents played in them. Logically, then, he set about instituting a comprehensive system of safety education in the plant. Patiently and effectively he worked, until at long last he was satisfied that every man on his payroll was thoroughly safety conscious. Each employee had learned the safety habit and it grew to be second nature with them. Automatically they utilized each pertinent safety device in the elevator whenever they came within the scope of the hazard for which it had been designed.

Then the superintendent sat back and relaxed. He ran his eye over the chart of descending production costs and saw how the accident factor was the leading agent in the lowering process. He smiled. It had been a long and arduous task for him but he had accomplished it.

The superintendent *KNEW* who was responsible.

## GRAIN

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TELEPHONE WABash 3111-2

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and  
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PROBLEMS  
in  
TERMINAL  
ELEVATORS

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# FARMING IN NORTH AMERICA

## *Before Columbus*

★

By MAX C. MARKLEY

*Research Chemist, Cargill Inc., in Cargill News*

★

**F**EW people think of the American Indian as a farmer; they picture him as a hunter and a warrior. Such an impression is often incomplete and onesided since many of the Indians depended upon their fields and gardens for most of their food supply. Even such warlike tribes as the Iroquois and the Cherokee lived in log houses amidst their corn fields.

It is true that many of the roving tribes of the Great Plains, such as the Apache and the Pawnee, looked down upon the farming tribes, but they were in the minority. The farming tribes at one time or another occupied nearly all of the country east of a line drawn from Duluth to San Diego, with occasional cultivation to the northwest of this line.

### *Game and Fruits Scarce*

Nearly all the Indians dwelling east of the Mississippi River were farmers. They had to farm. Game and fruits were never plentiful enough to support a population numerous enough to build the mounds of Ohio and Illinois. In clearings in the oak forests and by the prairie streams they raised corn from Alabama to Quebec.

Westward from the Mississippi to the Rockies the Indians found farming to be more uncertain than in the well-watered East. When there were years of heavy rainfall the farming tribes pushed west onto the high plains. They farmed much of Kansas, Oklahoma and Nebraska. The Mandans lined the Missouri with gardens into Montana. Tribes whose very names have been lost farmed the "Dust Bowl" of the Southwest. They even cultivated the sandy deserts of eastern

New Mexico. But when the dry years came in succession the farmers were forced to retreat to more favored regions leaving their fields to the buffalo and to the wandering hunters. This cycle was repeated many times.

### *Developed Desert Corn*

The best Indian farmers in the country were the Pueblos of the far Southwest. They had to be good farmers in order to raise crops in that land of drought and alkali. They developed corn which would grow in the desert sands. Even today we have no corn more drought resistant than the corn of the Papagos from the hot deserts of Arizona. The Pueblos were cunning in their use of the waters of the little streams that flow from the mountains. Nearly all of the present stream irrigation projects in Mexico and Arizona were first engineered by the Indians long before the Spanish conquest. These projects, valuable as they are, are small in comparison to the great irrigation works of the Incas in Peru.

### *Fished All Day*

The Pacific coast Indians were the exception to this rule in that they did no farming. The California Indians were too low in cultural development to be able to farm. The tribes along the Columbia River were far superior to the California Indians, but even they did not farm. They did not need to labor in order to raise food; they had such an abundant supply of salmon that there was no incentive to raise corn.

Corn was the major crop of the American Indians. Their corn was not much different from that



(Please turn to page 8)



# We made an OLD LINE *Live Again*

## THE BEST REASON

*for*



## Preference

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Inspection reveals important differences—as compared with apparently similar Screw Conveyor.

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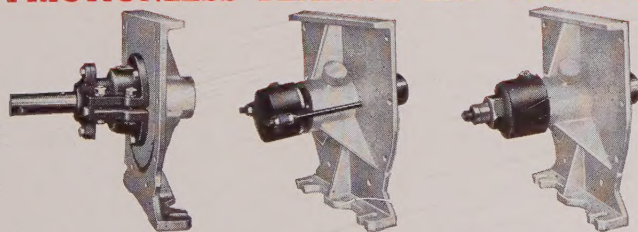
No. 17 Hanger

No. 18 Hanger

No. 18-A Hanger

All Calumet Screw Conveyor hangers are streamlined, offering minimum resistance to movement of material.

### FRICTIONLESS BEARING END THRUSTS



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We have given the same thoughtful consideration to end thrusts as we have to other items and can truthfully say that our line is the most complete on the market. Use end thrusts on your Screw Conveyor installation for efficient operation, lower power costs and minimum repairs.

Just because Screw Conveyors, Screw Conveyor Accessories and Elevator Buckets were manufactured the old way for years, (design, styles and details of construction seldom if ever being varied) and brought in constant orders for repairs and replacements, did not satisfy us when we started in business.

We took item by item . . . gave it consideration . . . sought to improve it both from the users, as well as from a manufacturing standpoint. We discovered that modern manufacturing methods, plus new types of machinery and dies, permitted vast changes and important advantages to be incorporated in design and construction. We equipped our shop accordingly. No part of our line is made the old time worn way.

The result is a Better Product. Our users know it, because they have helped us grow—continually adding to our volume.

If you haven't investigated Calumet Products as yet . . . Consult us or our Dealers for full particulars.



*"Something  
ON THE BALL"*

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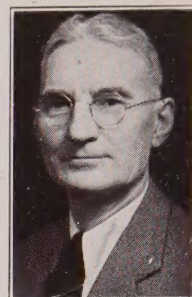
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CHICAGO, ILL.

## CLEARING HOUSE

"The SGES is truly a CLEARING HOUSE for ideas," says Henry Keir of Bartlett Frazier's "Wabash" Elevator at Chicago, "and in addition to participating at the monthly chapter discussions every one of our members should develop the habit of visiting with others on the job. After all our Association is just as much ours and just as vital as are our respective jobs . . . and parallelly the more you think about and work at both your jobs and your association responsibility the greater your success and the quicker your ascension.



HENRY KEIR

"There was a time when every active member of the Super's Society knew the balance of the membership through conventions, committee work and correspondence, but that is increasingly difficult with the substantial and high-caliber gains our technical group has made in membership. It is regrettable that

we all can't become intensely good friends with one another at a faster pace, for in the final analysis there is nothing more valuable, more genuine, more lasting, than a true friend. For friendships truly make the world go 'round, and it is only through their co-operation that the solid foundation for our association has been built.



"From this beginning I know one of the most constructive bodies is going to develop, as a matter of fact our Society has already acquired that reputation, and we intend to keep it and enhance our usefulness and broaden our goal."

I Believe:

That I cannot get something for nothing.

That I have the right to do anything which will not infringe on the rights of another.

In the honesty of the average man and in his willingness to do the right thing if he possibly can.

That my destiny is in my own hands. Though conditions and events may alter it some, eventually my own actions and thoughts will determine what I shall be.

That happiness is not something in the future to be striven for, but rather the ability to appreciate what I have and experience daily.

In a Supreme Being and a Hereafter. There are times when nothing but this Faith can help me.

That I shall have lived well if my neighbors say of me: "He is my friend. You can depend on him. His word is as good as his bond."—From the American Magazine.





# THE UTILIZATION OF MOISTURE *in the Growing of Grain*



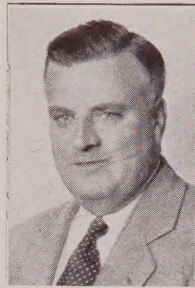
by PERCY C. POULTON,  
N. M. Paterson & Co., Ltd., Fort William



**L**IKE the late, much lamented, Will Rogers, all I know about the topic under discussion, is what I have read in newspapers or elsewhere.

The question of utilization of moisture in the growing of grain crops has been a very important one in both the United States and Canada for the past several years, but it is with much relief and thankfulness that we are now able to feel that the drought cycle is a thing of the past and for the time being at least, is one of those things we need not worry so much about.

The information from which this talk was developed contained so much startling and intriguing information, that I feel all of those interested in the grain trade, no matter in what sphere, should have some understanding of the amount of moisture required to produce grain crops.



PERCY POULTON

## *Scientific Investigation*

At the commencement, I wish to say all of the following remarks and deductions are concerned only with conditions of soil and moisture of the three Canadian Western Provinces. The Dominion Government of Canada has had established for more than a quarter of a century, three Experimental Farm Stations located at Brandon, Man., Indian Head, Sask., and Swift Current, Sask. These three stations have been of untold benefit to the Farm Industry of Western Canada. It is of one of the more recent scientific investigations made at one of these stations, namely, Swift Current, that I wish to talk to you about.

Mr. E. S. Hopkins, Field-Husbandman and the late Mr. S. Barnes conducted investigations on "How Much Moisture Does a Wheat Crop Utilize," and their findings contained what I thought to be astounding facts.

## *Eighty Tons of Water Per Bushel*

Under average Western Canadian conditions, (which conditions would be comparable to the states of North and South Dakota, Montana and Wyoming); it takes from 1,000 pounds of water to 2,600 pounds of water to produce one pound of wheat, or thirty tons to eighty tons of water to produce one bushel of wheat. This statement intrigued me exceedingly, and I say to those of you who are arithmetically bent, that it will provide you with a neat arithmetic question. It certainly struck me that way and I again acquainted myself with those school day tables and found that if sufficient moisture fell or was in the soil in the form of subsoil, moisture to the extent of fourteen and one-half inches of water and using Mr. Hopkins' figure of 2,600 pounds of water being required to produce one pound of wheat, that 1,265 pounds of wheat would be produced on one acre of land, or twenty bushels per acre of sixty-three pounds to the bushel.

## *July Moisture Requirements Heaviest*

The gentlemen whose names I have given you went further in their investigations than the figures already given you and gave the rate of utilization of moisture of growing crops by months, namely:

|             |              |
|-------------|--------------|
| April ..... | .25 inches   |
| May .....   | 1.25 inches  |
| June .....  | 1.65 inches  |
| July .....  | 11.50 inches |
| Total ..... | 14.65 inches |

A glance at these figures suggests at once that if a growing crop requires no less than eleven and one-half inches of water in its last month of growth, we must have copious June rains or an equivalent amount of water already in the soil in the form of subsoil moisture reserves.

## *Wheat Roots Six Feet Long*

Another quite intriguing finding given out by Mr. Hopkins and the late Mr. S. Barnes states that the



roots of the wheat plant penetrate from five to six feet, which also suggests that if seed be planted in soil deficient in moisture reserves, the roots of the plant will, therefore, exhaust the last vestige of moisture in the soil and still not produce a crop, making it definitely more essential that moisture in bountiful quantities be received before another crop be planted. Don't you think that this fact is responsible very largely to the abnormally dry soil conditions of the past few years?

### *Other Misbeliefs Exploded*

I take at this time the liberty to quote in full another finding by these gentlemen from Swift Current, and that is the action of moisture already in the soil:—"The belief held quite generally that moisture moves continuously upwards in the soil by capillary action, has been found to be incorrect. On the contrary, it is discovered that the movement of

moisture upwards to the surface is so exceedingly slow that it may be considered to all intents and purposes to be negligible—"

Also contrary to general opinion, wheat plants do not seem to be injured by hot temperatures or drying winds. It is the lack of moisture, or the drought, that damages the plant. It has been noted that under very adverse conditions of heat and dry winds, crops that are irrigated do not suffer.

Hot dry winds do not "lap-up" moisture from the soil, because the few inches of soil on the top is already dry and moisture which has penetrated below that depth is apparently safe from the action of heat and winds.

Then again we all know that ten inches of snow is equal to one inch of water, but it does not follow that subsoil reserves of moisture are built up to the water equivalent of snow falls, because snow usually falls on a frozen surface and that the surface cannot thaw until all of the snow has disappeared, meaning that the snow water, to a very great extent, runs off into ditches or sloughs or is lost through evaporation.

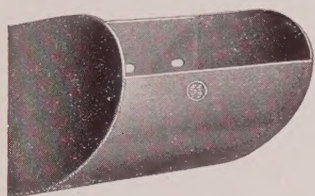
I hope I have made my subject both informative and interesting and in giving this talk I acknowledge with gratitude the source of the subject matter.

## **FARMING BEFORE COLUMBUS—**

*Continued from page 4*

grown today. Beans and squash were favorites with these primitive gardeners. Tobacco was grown over a wider area than it is today. Some of the plains-tribes that would not stoop to the cultivation of food plants had their tobacco gardens which were tended with religious rites. Sweet potatoes were raised by some of the southern tribes. In the Southwest chili peppers and long-staple cotton have been grown by the Indians for more than a thousand years.

All of these crops were grown by hand labor. The Indians had no animal power for cultivating the land. They dug with crude spades made of the shoulder blades of animals, and cultivated with heavy stone hoes. This limited their activities to the lighter soils unless irrigation water was available. Weeds were a great problem to them and caused much shifting of sites. Their preference for the light sandy soils caused them much trouble from wind and water erosion. Their fields in the "Dust Bowl" of the Southwest blew out just as badly as do the wheat fields today. Even yet many of those old Indian fields are barren wastes though they have lain fallow a thousand years or more. The Indian was just as hard on his soil as are present day white farmers.



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Adaptable to use in a greater range of commodities than any other bucket. Our recommended close spacing will **DOUBLE** your present capacity; or use on your present spacing for a noticeable capacity increase.



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MAY 15, 1938.

TO READERS OF "GRAIN"  
T H A N K   Y O U !

GENTLEMEN:

BUMPER CROPS, UNSURPASSED IN TWENTY-THREE YEARS,  
ARE IN THE OFFING. IT'S ASSUREDLY A "GRAIN"  
YEAR.

WHILE A GOODLY PROPORTION OF THE NEW CROPS WILL  
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ING AND CONTRACTING. BUT MOST OF ALL WE ARE  
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THE GENEROUS RESPONSE ACCORDED OUR EFFORTS TO  
SERVE YOU.

"GRAIN" CERTAINLY BLANKETS THE CONTINENT AND  
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# *Commercial Importance of* **GOOD SUPERINTENDENTS**

## ★ **NEW DEMANDS IN WHEAT STORAGE** ★

By FRED W. LAKE

Vice President, Continental Grain Company,  
Kansas City

In connection with the labor factor in our operations, we have been fortunate in having very satisfactory relations with our men and their Union leaders. Unquestionably, our elevator superintendents have played the major part in developing and sustaining such a desirable relationship, and I sincerely hope that elevator superintendents everywhere will be successful in continuing to promote a spirit that recognizes it is just as essential for every elevator employee to cooperate in order to keep the elevator going as it is for the operator to succeed in their departments of the business.

Let us all work together efficiently and harmoniously, and I am sure success will be ours.

**I**T is indeed a privilege and an honor to address you, the members and guests of the Society of Grain Elevator Superintendents of North America at this your ninth annual Convention, not only because of the vital part you have in the vast grain industry, but also because of the years of personal contact I have had with your members.

It has perhaps never before been so essential that you meet together to discuss and try to solve the problems of elevator operations as at the present time. Everyone active in grain elevator operation is fully aware of the tremendous responsibility and confidence placed upon you elevator superintendents.

### *Must Continually Adjust Selves*

Years of experience teaches us that it is necessary to adjust ourselves continually to conditions that develop naturally from shifting in varieties, grades and qualities of grain, changes in grading rules, and other changes, natural or otherwise, in labor relations, government legislation, etc.

To assure the successful solution of many of these problems uniform action is necessary, and such action would be very difficult, if not impossible, without the full support of your Association and a large attendance at your meetings.

### *Alteration in Operations Imminent*

Any changes in marketing policies are immediately reflected in your activities, so you are well acquainted with present distribution methods; however, I wish to emphasize that some further alteration in the method of operation appears imminent, because of the more technical demands on the part of bakers upon millers for a more uniform standard of flour.

All over North America, there has been a gradual but continuous change in the varieties of wheat grown, particularly in the Southwest, which territory is more closely under my observation. In this section, old varieties have been mixed and new varieties have been established. Some of the new varieties were developed for the purpose of obtaining greater yields in bushels per acre, as well as for resisting crop plagues, and at the same time retaining the best milling qualities.

### *Closer Laboratory Control*

Shifting of varieties, as well as quality, from time to time, as the result of the effect of extreme weather conditions, has developed an irregularity and lack of uniformity in baking results, which occasions closer laboratory supervision. We, as merchants, are already beginning to feel the effect of the more tech-



nical demands of bakers upon millers, and it seems obvious that for best results during the coming season elevator operator merchants will be forced to inform themselves more thoroughly on the baking qualities of the wheat they purchase and store, in order that it may be placed in bins under a system whereby it can be loaded out according to the specifications required by mills.

I am fully cognizant of the fact that at the present time wheat is stored according to the grade, test weight and protein; but, this new development, which is one of paramount importance, will require that we go one step further in providing a more dependable service to mills.

#### *Customers' Demands Dominant*

It is undoubtedly quite plain to you that the new factor has to do with the quality and elasticity of gluten, in addition to the quality of protein. As has been proved many times in the last few years, the strength of wheat, according to protein alone, is not a sufficient indication that the wheat will mill into a high grade baker's flour. The baking industry has developed into larger and more efficient units to where uniformity in the flour, because of their increased efficient operation, is of major importance.

For instance, take a bakery that from its own experience gets the best results from dough of a certain definite gasing power and fermentation period. If they receive a flour sufficiently uniform in these requirements, they are highly pleased; whereas, if the flour received from the same mill varies too much in these requisites, their results are too seriously affected for them to tolerate further shipments of flour of such diversified characteristics.

Therefore, mills which do not have their own buying supervisor and are not equipped for laboratory research, will have to depend upon the milling wheat merchants to supply them on an equal and competitive basis with those better equipped. So, elevators should and will be required, in order to justify their existence as merchants of milling wheat, to furnish such standards of wheat as the various mills need to serve their trade with a uniform and dependable flour; based, of course, upon the assumption that without the proper raw material the miller cannot produce the proper product in flour.

#### *Trade Slow to See Need*

As was the case at the time of the inception of the sale of wheat on a protein basis, the grain and elevator trade may be slow to recognize the necessity of adjusting themselves to this new feature.

It so happens that I was among the first to market wheat on a broad scale upon a guaranteed protein

basis. This was not an entirely original idea exactly, because the suggestion of such a program came about in much the same way as this new factor mentioned above; that is, at that time bakers and flour buyers demanded of the mills a flour of a certain guaranteed strength. Wheat had previously been sold as ordinary, semi-dark and dark, and a miller had no way of knowing whether he was in position to furnish uniformity and a definite degree of strength until after he had bought and received the wheat; even then, in some instances, he was still unaware of the protein content, because most of the mills did not have their own laboratories and often did not know how close they came to fulfilling the requirements of the bakers unless informed by the bakers themselves.

No longer can a merchant operate successfully by assuming that he can market his stocks to best advantage by merely accumulating a number of bushels equivalent to his capacity, then calculate what grade and protein it will make when mixed together, and sell the resulting grade as a dependable standard of wheat. The question of variation in the quality of wheat of the same grade and protein has been proved definitely to be not just a theory.

#### *Must Sell on Flour Uniformity Basis*

We find ourselves to some extent marketing wheat in much the same manner as some mills market flour. In the past, the brand on the sack sold the flour, regardless of whether the content was uniform throughout the year or not. With bakers at least such a condition can no longer obtain, because of the necessity of a well defined article to produce best results.

Kansas wheat, when spoken of in terms of "Kansas wheat" of the best quality carries to the mind of the consumer something of a high standard and dependable quality, but at times for certain uses this Kansas wheat has been blended with other wheat, particularly further east in Illinois, Indiana and elsewhere, when wheats in those areas contained a fair average quality of gluten. Many of you who are familiar with the hard wheat grown in that section this year, are aware of the fact that considerably less of this wheat could be used with the Kansas wheat as a blend, compared with other years, because their crop this year showed relatively a lower quality of gluten, based on the same protein strength.

Although you and I both know the bulk of the Kansas wheat is of a high standard of quality, still there is wheat grown in Kansas that would not measure up to the high standard that prevails in the minds of some millers who are far removed from this section and assume that all Kansas wheat is dark hard and high protein. In Kansas, considerable soft red winter

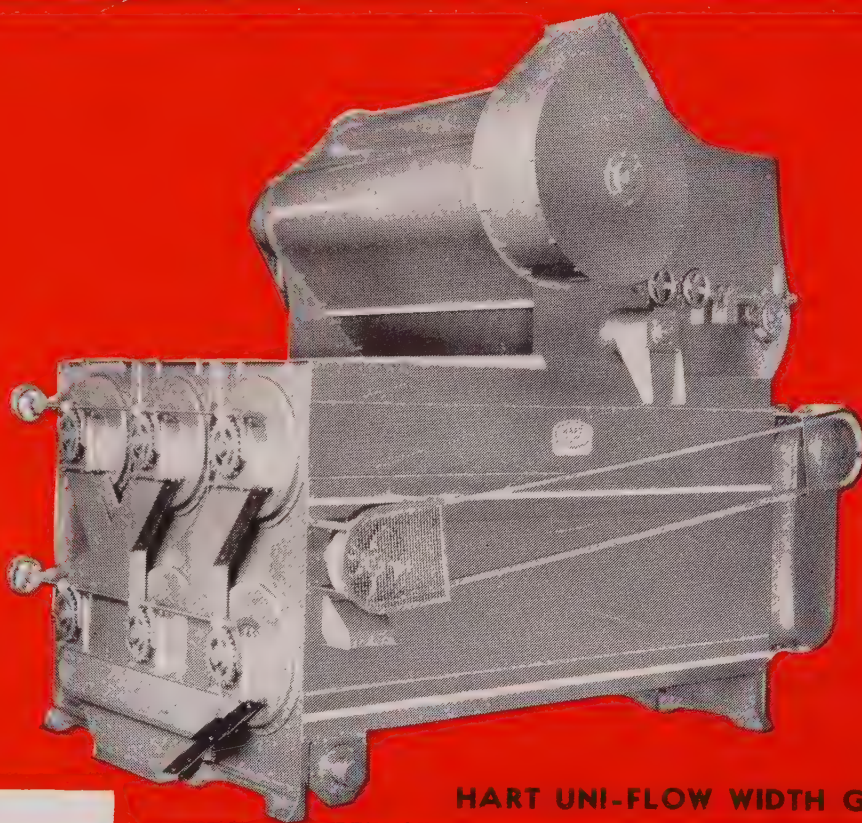


**A  
Money-Making  
Combination!**

**CLEAN MORE CARS  
TERMINAL SIZE CAR**



**Grade by Plumpness with the Hart Uni-flow Width Grader**



**HART UNI-FLOW WIDTH GRADER**

### **New Installation Flash!**

Hart-Carter is proud to announce that its equipment has been selected for installation in the newest terminal elevator project now under construction in Minneapolis. Among the machines now being fabricated in its plant are two terminal size Carter Disc-Cylinder Separators and two of the largest capacity Hart Uni-flow Width Graders for this project. When completed there will be seven of the latest Hart-Carter terminal elevator machines in operation in this one workhouse alone. This same concern will then have a total of eighteen Hart-Carter units in its terminal elevators—nine Carter Disc-Cylinder Separators, four Hart Uni-flow Width Graders, and five Big 4 Carter Disc Separators.

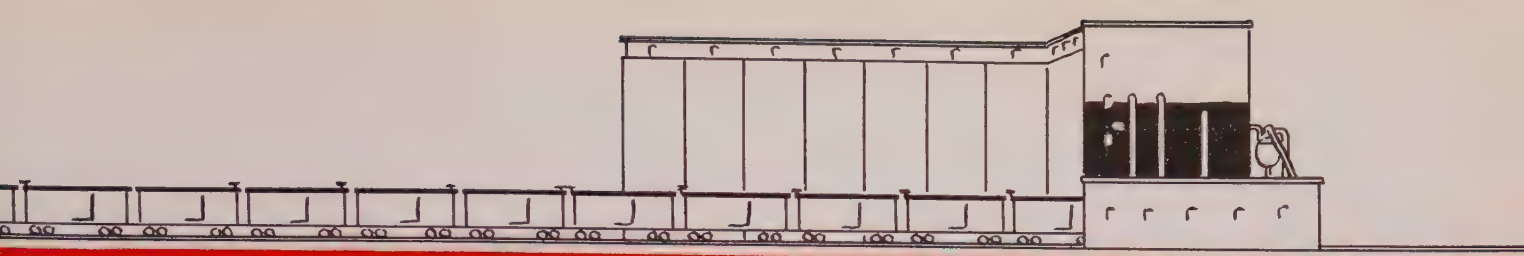
### **Make Extra Profits Preparing Grain to Command Premium Prices!**

The Hart Uni-Flow Width Grader opens a new source of profit for terminal elevators. Here, for the first time, is a machine that will perform an accurate width-separation on cylinders, and that will give, in addition, easy control and wide flexibility without change of equipment. The Hart Uni-Flow Width Grader may be used either for needling or for grading barley, and it will grade by thickness wheat, durum, rye and oats. It replaces old-style needling and grading devices with new efficiency, greater adaptability and lower operating costs. It enables terminal elevators to handle specialized grading jobs and to prepare grain to command the best premium prices. Used in connection with the Carter Disc-Cylinder Separator, it makes a complete system for the most profitable processing of grain. Install a Hart Uni-Flow Width Grader now.

**HART-CARTER COMPANY**

**706 Nineteenth Avenue, N. E., Minneapolis, Minn.**





# GRAIN AT LESS COST WITH THE HART-CARTER DISC-CYLINDER SEPARATOR!

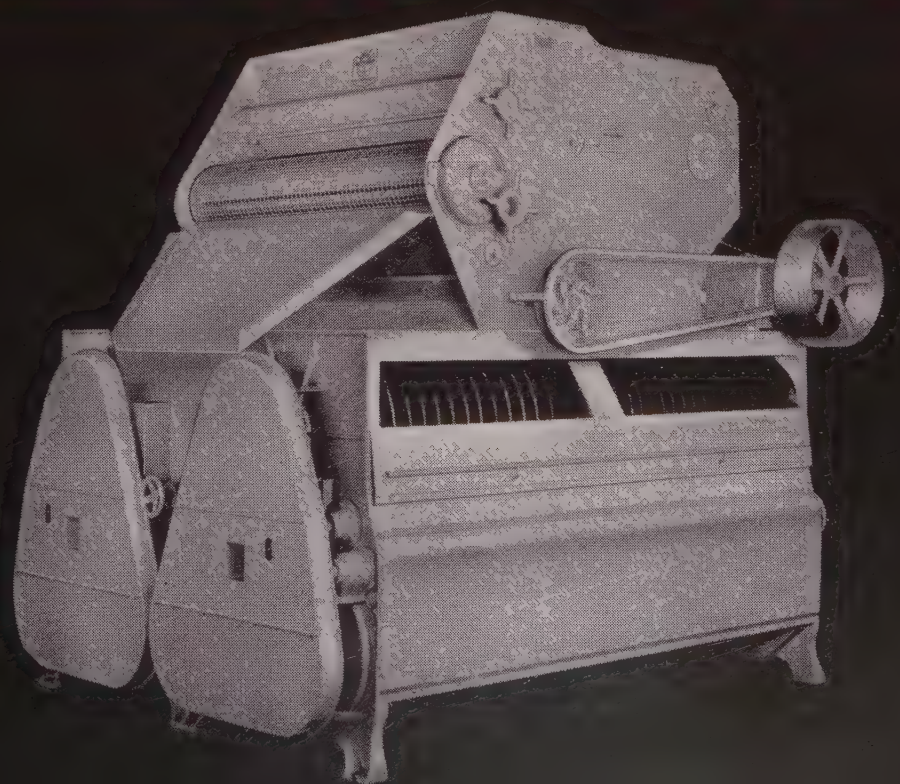
## Extra Capacity - New Standards of Accuracy and Flexibility with this Great Machine!

When the big movement of grain starts, be equipped and ready for bigger profits. The 2564 Carter Disc-Cylinder Separator, designed especially for terminal needs, will clean more cars of grain more rapidly and more thoroughly per dollar of investment and of operating cost than has previously been possible with any other standard terminal equipment. The secret of its unusual performance lies in the unique combination of discs and cylinders in one operating unit. Discs provide unequalled accuracy, cylinders provide wide flexibility. Coupled together in the 2564 Carter Disc-Cylinder Separator, these two methods reach new levels of cleaning capacity and efficiency. To make the cleaning job complete, Hart-Carter's special patented scalping and aspirating units are included, making the Disc-Cylinder a complete cleaner that will scalp, aspirate and perform five major separations in one operation.

At high capacity this remarkable cleaner will remove oats, barley, cockle and other small seeds from wheat. From barley, it will remove wheat, cross-broken barley, oats, wild oats, Trebi and weed seeds, taking out even the difficult round seeds such as wild peas. From durum, it will remove cockle, wild buckwheat, wild peas, pigeon grass, mustard, oats, wild oats and barley, and will grade out spring wheat and undersized durum. Equally fine results can be obtained with oats, rye, and tame buckwheat.

Compact, quiet in operation, all-enclosed and dustless, the Carter Disc-Cylinder Separator is a mechanically outstanding machine. Easy to regulate and extremely low in its power requirements it is a most unusual value for its cost. Clean with the Carter Disc-Cylinder Separator—grade with the Hart Uni-Flow Width Grader—to take more money out of this year's crop!

CARTER DISC-CYLINDER SEPARATOR





# MILLIONS

of dollars go up in smoke every year—just because of

## DUST EXPLOSIONS

Terminal elevators throughout the country are protecting elevator legs from dust explosion hazards with

### ROBERTSON SAFETY VENTILATORS



For balanced ventilation of grain storage bins a growing number of elevators are using

### ROBERTSON CAPACITY VENTILATORS



For light-weight, economical, long-lived corrugated roofs and side walls of terminal buildings, use

### ROBERTSON PROTECTED METAL



Write today for information

H.H. **ROBERTSON** CO.

Grant Building • Pittsburgh, Pa.

and mixed wheat is grown. While the gluten quality factor is not quite as important in the soft red winter and mixed wheat, it is of some importance nevertheless. This condition, as you are aware, also obtains elsewhere, particularly in Canada. Many millers have the idea when you mention Canadian wheat that they grow nothing but No. 1 dark northern spring, Manitoba, whereas they raise other grades and varieties, especially a type of wheat called "Garnet" that is very beautiful to look at, uniform of berry, heavy in test weight, fairly strong in protein, but still very deficient in gluten quality.

I am happy to say that at present our new crop winter wheat prospects are good, and, with favorable conditions from here on, this country should raise another crop in excess of domestic needs. Canada also should have a normal crop with favorable conditions.

With an increased surplus in this country and a normal crop in Canada, we naturally contemplate what such a situation will do to wheat values, and if values decline much from present levels, just what steps may be taken by the Administration.

Regardless of what action they may take, it appears that elevator space will be in greater demand than for several years.

#### *Superintendents Aid Labor Relations*

In connection with the labor factor in our operations, we have been fortunate in having very satisfactory relations with our men and their Union leaders. Unquestionably, our elevator superintendents have played the major part in developing and sustaining such a desirable relationship, and I sincerely hope that elevator superintendents everywhere will be successful in continuing to promote a spirit that recognizes it is just as essential for every elevator employee to cooperate in order to keep the elevator going, as it is for the operator to succeed in their departments of the business.

Practically all branches of business have been seriously affected by reduced margins of profit, and the grain and elevator business has been no exception; the political and general economic unrest has caused many business failures.

Let us all work together efficiently and harmoniously, and I am sure success will be ours.



#### *CONNECTIONS WANTED?*

*Purveyors of specialties, do you want a distributing agency at the Head-of-the-Lakes, Fort William-Port Arthur?*

*If so, address your inquiry in care of this publication.*



# A LETTER OF IMPORTANCE... to all ELEVATOR SUPERINTENDENTS

BEN J. MANY CORPORATION  
CONTRACTORS  
IN-FIL-TRO SYSTEM OF  
MASONRY RESTORATION  
30 NORTH LASALLE STREET CHICAGO, ILLINOIS

Elevator Superintendents  
Everywhere

Gentlemen:

The publishers of "GRAIN" request that we communicate with you with regard to waterproofing grain elevator and grain processing plants.

The writer has been engaged in the Waterproofing Contracting business over thirty years. During that time our experience has taught us the cause of waterproofing failures and the methods necessary to overcome existing conditions.

You have analyzed your troubles Do you find that water gets in through the concrete itself, or does it get in through cracks? Do cracks develop when the bins are built, or do they appear continually thereafter -- due to movements of loading, expansion, contraction, etc?

Waterproofing the concrete itself is not difficult. WE GO FARTHER. Our "In-Fil-Tro Depth Finish" material, applied under air pressure, penetrates INTO THE CONCRETE an appreciable distance and waterproofs it almost permanently!

Then, our "In-Fil-Tro-Flex Finishing Product" meets your problem of continual cracking. This is applied over the "In-Fil-Tro Depth Finish" at an average thickness of between 3/16" and 1/4". It is of a skin-forming nature, the flexible material remaining securely trapped between the prime coat and the outer skin.

Do you believe that QUALITY MATERIALS have an effect upon the longevity of service? We recognize that asphaltic and similar base materials are cheaper. However, THEY DO NOT RETAIN THEIR FLEXIBILITY under the severe weathering of our climate. Consequently, we use more expensive base products -- all of tung base with phenolic gums, which explains their long-life.

Another important factor is the QUANTITY of material used. Our first application takes about one and one-half gallons per one hundred square feet. This is the DEPTH TREATMENT. The next application -- "In-Fil-Tro-Flex" -- requires about four gallons for every one hundred square feet, and this provides a sufficiently thick flexible body between the prime coat and the outer skin to allow for excessive movements and great length of service. So -- OUR TREATMENT IS GOOD but not cheap -- UNLESS you take into consideration ITS LASTING QUALITIES!

Extremely important, too, are the methods employed in the proper patching. Our patch materials are Gun-C-Ment (air applied mortar), which are securely anchored in place with proper reinforcements (described in a special folder AWAITING YOUR REQUEST).

Finally, we believe that it requires the services of especially trained mechanics specialized in this exacting type of work to give the best results. Consequently, we are EXCLUSIVELY CONTRACTORS and do not sell materials.

Won't you write us today and let us submit (without cost) a complete survey and proposal?

Yours very truly,

Ben J. Many Corporation

By *Ben J. Many*  
President



# ***EXPLOSIONS***

Disastrous blasts in the past month, the most recent being the Purina Elevator at Nashville, Tennessee, vividly portrayed below





# What Would You Do?



CLAUDE L. DARBE

By CLAUDE L. DARBE

Assistant Superintendent

ROCK ISLAND ELEVATOR, SIMONDS-SHIELDS-LONSDALE GRAIN CO.  
Kansas City, Missouri

WE are all interested to some degree in any subject pertaining to saving human life. This common interest accounts for the growth in number and influence of safety organizations all over the country. Their program of education is manifesting itself in every walk of human life, including the home and the school. This program has been quite effective in industries, and it is the safety of industrial workers that I am especially interested in, particularly grain elevators and processing plants.

The state governments have co-operated with the safety organizations by enacting laws prescribing certain appliances and devices that must be installed for the protection of the workers.

## *Still 18,000 Die Annually*

All of these various efforts have not been fruitless. They have reduced the number of deaths due to accidents in industry from 35,000 in 1913 to 18,000 in 1937 — a reduction of nearly 50%. But accidents still happen, people are still injured, and they still die from those injuries.

The safety organization and the state laws are endeavoring to protect the workers up to a certain point, — the time of the accident. After the accident, the doctor is called and arrives in ten, twenty, or forty minutes and takes the victim to the hospital where he is treated in the usual manner. The insurance company pays the bill.

## *Waiting Period Dangerous*

In between the time of the accident and the time of the doctor's arrival, very little provision is made for the unfortunate victim. He is left in the care of untrained hands. Many doctors have stated that in some cases as much damage is done to the victim by lack of, or improper first-aid, as was done by the accident.

If you were in your elevator and without any warning a man was thrown in front of you, the bone protruding from the upper part of his thigh, blood spurting seventy-two times per minute, a good sized spoonful per spurt, WHAT WOULD YOU DO?

## *Will Be Corpse If —*

He may be one of your best men and the company will sustain an economic loss while the man is not working. He may be your buddy, to some of you he may be your son, but it makes no difference whose buddy or son he is, he is going to be a corpse in an incredibly short time if something is not done.

We all witness just about the same scenes as we go through the years in an industry. We can see the confusion around the scene of an injury on the street, on the highway or in the community in which we live and if scenes witnessed in the past can be considered a criterion by which we may judge the future, this one will not be difficult to describe.

## *Demoralizing Scene*

Every man who can leave his work will run to the injured man to see what happened. Some one will call the doctor, others will look for something to tie around his leg to stop the blood, others will try to sit him up, others will want him to lie down, another will try to give him water or move him to the fresh air, and this will continue until the doctor arrives.

The victim will be suffering from shock. He will lose a considerable quantity of blood before they can possibly apply a tourniquet, which will increase the severity of shock. In addition to a compound fracture of the leg he is a sick man.

## *Training Is Answer*

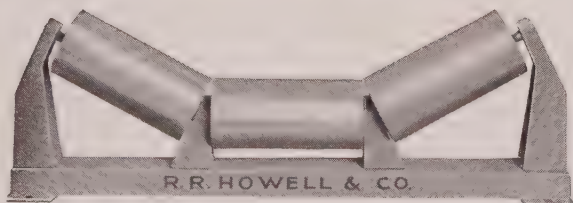
How different this scene would have been if a Red Cross trained first-aider had been there. He



would have quickly placed his hand in the groin of the injured leg and bleeding would have stopped immediately. Some one would get a towel, a bandage, or a belt an inch or more in width to properly apply a tourniquet with a pressure pad directly over the artery, a hand's breadth down from the crotch on the inside of the leg and control the bleeding without great pressure. A doctor would be called. Coats or blankets would be wrapped around the victim to treat for shock. The wound would be painted with mild iodine to prevent infection. A traction splint would be applied. A sterile compress bandaged firmly in place over the wound and the tourniquet released.

If bleeding is too severe, the tourniquet would be tightened again to allow the blood to clot in the compress which would help to control the bleeding to allow the tourniquet to be permanently released. The man should be in about the same condition as he was at the time of the accident. The severity of shock reduced by treatment, bleeding controlled quickly and the doctor could begin treatment of the injury at once.

## BELT Conveyors



The latest development in all steel rolls for belt conveyors. Equipped with New Departure "lubricated for life" bearings. Rolls are one-piece smooth finished seamless steel tubing, with heads pressed in. Balanced, smooth running, and once installed require no attention whatever. No grease gun or fittings, no grease and no expense for greasing time. Supplied plain or troughing style, as shown. For all belt widths 24 to 48 inch.

Write for detailed information and prices

**R. R. HOWELL & CO.,**  
MINNEAPOLIS, MINN.

The doctor takes charge any time he arrives. There is no conflict or overlapping of authority between the doctor and a Red Cross first-aid.

### *Shock Related to Blood Lost*

How many cases have you known or read of where people die because of a broken or severed leg or arm? Death frequently occurs in a few minutes to a few hours after such accidents. Why do they die? There are no vital organs in the arm or leg. Just bone, muscle, blood vessels, nerves and skin. Many people lose them and live. The immediate result of such injuries is shock and bleeding and the severity of shock is increased in proportion to the amount of blood lost.

The 1937 Edition of the American Red Cross First-Aid Text-Book says:

*"Shock is frequently the cause of death. Immediate shock treatment may save a life and permit the patient to live and recover from his other injuries.*

*"Shock may not be prevented in all cases, but its severity may often be greatly reduced. Few persons outside of hospitals realize the seriousness of this condition. Many seriously injured cases are in such severe shock on arrival at the hospital that little treatment for the injuries themselves can be given until the patient rallies from shock. To treat the injuries before the patient rallies might be fatal."*

These lives are evidently lost because of lack of, or improper first-aid at the scene of the accident. Infection and other complications may develop later but that is the doctor's problem.

### *Bleeding Unnecessary*

Severe external arterial bleeding is not necessary. It can be controlled by digital pressure. Our fingers can do a lot of things if our mind will tell them what to do and how to do it.

The tourniquet is useful and recommended by physicians, but it is very dangerous. If left in place over twenty minutes it may cause gangrene to develop. At the close of the great war, doctors made the statement that more arms and legs were amputated because of improper first-aid than enemy bullets. The men were found bleeding and tourniquets applied and the patient put into an ambulance and due to traffic condition or barrages, were unable to reach the dressing station for an hour or more. The tourniquet had done its work. The situation was no doubt unavoidable on the battle field.

### *First-Aid Training Complete*

First-aid is always important whether the injury is great or small. Operators of industries are begin-



ning to recognize this fact. In industries employing a large number of people, a first-aid dressing station is maintained at all times. This is not practical with a smaller number of employees, but why not train some of the men who are now in your employ? The Red Cross has prepared a course of study on the subject of first-aid that covers every injury that can happen to man. It also gives emergency treatment for many attacks of sudden illness. No special educational qualifications are required to complete this course and no great amount of time.

The Missouri River engineers sent a group of men to Kansas City for one week to take first-aid training. The police and fire departments are training all men as rapidly as possible.

I am confident that in a few years all industries and business establishments will keep first-aiders among their employees.

Wouldn't it be a source of pride and satisfaction to us to know that the elevators were among the first to recognize and formulate plans for using the information that the Red Cross has so carefully prepared for us?



### ANOTHER BLAST INJURES 11

Nashville, Tenn., April 29.—Eleven employees in or around the Ralston-Purina Company's mill elevator here were injured and the unit seriously damaged about 4:15 p.m. today. Most of the injuries—and some are quite serious—are burns.

The blast flashed through the basement and popped out the unloading pit and then crashed up the legs to the upper floors. Fire spread throughout the upper sections of all bins—although all of them did not explode.

While the source of ignition has as yet not been determined it is thought that where corn was being transferred from the unloading pit to the unloading leg on a basement belt conveyor might have most readily responded to a spark from a bucket striking a piece of tramp iron.

While the loss was severe, good housekeeping—for which this company is noted—unquestionably minimized the damage and avoided a complete loss with heavy fatalities, in the opinion of authorities.

The last three months have claimed a bitterly relinquished toll of life, jobs and property from dust explosions.

**GRAIN ELEVATOR**  
*Safety*  
**THROUGH**

*Complete*  
**DUST  
CONTROL**

*Installations*

**FURTHER DETAILS**  
*from*

**ALFRED C. GOETHEL CO.**  
2337 NORTH 31st STREET  
**MILWAUKEE, WISCONSIN**  
**MANUFACTURERS....ENGINEERS**



# *S G & S Safety Contest Winners*

★  
By the Committee

★  
**W**HO are the Safety Contest Winners? We feel that everyone who put forth some extra safety efforts during the period of our First Annual Safety Contest (September 1, 1937 to February 28th, 1938) was a winner. All units entered had a good record, and our combined score shows a low frequency rate and an extremely low severity rate.

Three beautiful cups were donated, and as there are only three prizes to be awarded, the prize in each class necessarily went to the largest unit in each class that had a perfect safety record. We feel, however, that the other units in each class, which had a perfect record are also entitled to a world of credit. Therefore, our Honor Roll for the First International Safety Contest, is as follows:

## CLASS A

Units operating over 50,000 man hours during the six months' period of the contest.

Cup donated by Hart-Carter Company, Minneapolis, engineers and manufacturers of grain cleaning machinery.

Awarded to The Glidden Company, Soya Products Division, Emil Beulens, Production Superintendent, Chicago, for operating 161,907 man hours without a lost time accident.

## Honorable Mention:

(a) Saskatchewan Pool Terminals, Ltd., Percy McCallum, General Superintendent, Port Arthur, Ontario, operating 85,940 man hours without a lost time accident.

(b) Federal Grain Ltd., Northwestern Plant. S. S. Orstad, Manager, Fort William, Ontario, operating 75,000 man hours without a lost time accident.

## CLASS B

Units operating 35,000 to 49,999 man hours during the six months' period of the contest.

Cup donated by John S. Metcalf Company, Chicago, engineers and constructors of grain elevators.

Awarded to Grand Trunk Pacific Elevator, Fred Sibbald, Superintendent, Fort William, Ontario, for operating 36,937 man hours without a lost time accident.

## *Ask Our Customers About Our Service!*

### HERE ARE A FEW OF THEM

|                                |                    |
|--------------------------------|--------------------|
| F. H. PEAVEY CO.....           | Minneapolis, Minn. |
| PEAVEY DULUTH TERMINAL CO..... | Duluth, Minn.      |
| TWIN CITY TRADING CO.....      | Minneapolis, Minn. |
| TRI-STATE MILLING CO. ....     | Rapid City, S. D.  |
| VAN DUSEN-HARRINGTON CO.....   | Minneapolis, Minn. |
| CARGILL, INC. ....             | Minneapolis, Minn. |
| BROOKS ELEVATOR CO.....        | Minneapolis, Minn. |
| KING MIDAS MILLING CO.....     | Minneapolis, Minn. |
| NORTHROP, KING & CO.....       | Minneapolis, Minn. |
| OMAHA ELEVATOR CO.....         | Omaha, Nebraska    |
| PILLSBURY FLOUR MILLS CO.....  | Minneapolis, Minn. |

*They know!*

**APPRAISAL SERVICE COMPANY**

**MINNEAPOLIS**

*"Appraisers to the Grain Trade"*



### Honorable Mention:

(a) Peavey-Duluth Terminal Elevator, Oscar W. Olsen, Superintendent, Duluth, Minn. (Not competing for cup) 48,952 man hours without a lost time accident.

(b) Occident Terminal Division, Russell-Miller Milling Company, W. H. Teppen, Superintendent, Duluth, Minn., operating 36,776 man hours without a lost time accident.

### CLASS C

Units operating less than 35,000 man hours during the six months' period of the contest.

Cup donated by Harry B. Olson, Chicago, grain and seed testing equipment.

Awarded to Uhlmann Grain Co., Wabash Elevator, T. C. Manning, Superintendent, North Kansas City, Missouri, for operating 32,151 man hours without a lost time accident.

### Honorable Mention:

(a) Reliance Elevator, R. B. Pow, Superintendent, Fort William, Ontario, operating 31,223 man hours without a lost time accident.

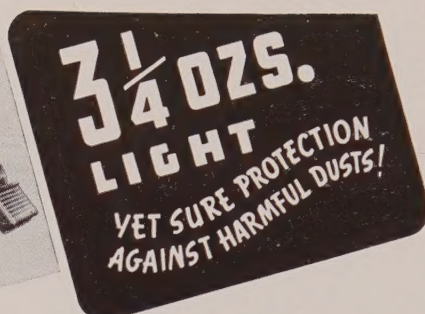
(b) N. M. Paterson & Company, Ltd., Percy C. Poulton, Superintendent, Fort William, Ontario, operating 31,031 man hours without a lost time accident.

(c) Nowak Milling Corporation, Hammond, Indiana, operating 23,320 man hours without a lost time accident.

(d) Parrish & Heimbecker, Ltd., Superior Elevator, F. McLean, Superintendent, Port Arthur, Ontario, operating 11,656 man hours without a lost time accident.

We wish to congratulate all the operators, superintendents, foremen and employees of the units entered in the contest. The results attained indicate that you all worked hard and our combined score is remarkably good for a first attempt. However, much remains to be done to improve safety conditions in grain elevators and we hope that each one of you will keep up the good work.

We are greatly indebted to the three associate members who so kindly donated the cups for this first contest; and we greatly appreciate the important part



## The Dustfoe RESPIRATOR

Dusts CAN'T GET PAST A DUSTFOE—no matter how heavy the concentration in air may be. And Dustfoe is so light it can be worn throughout the longest job in perfect comfort. Officially approved by U. S. Bureau of Mines for protection against Type "A" dusts, (includes flour and grain dusts), the Dustfoe Respirator has an aluminum facepiece body adjustable to fit each individual face. Soft sponge rubber face cushion provides a dust tight seal; all parts are interchangeable, replaceable, and may be thoroughly sterilized. • Full vision in every direction, non-interference with goggles or any head covering, dust protection without hindrance to natural ease of breathing are other outstanding features. Write for complete details in Dustfoe Bulletin GR-CM-1.



### MINE SAFETY APPLIANCES CO.

Braddock, Thomas and Meade Streets, Pittsburgh, Pa.  
District Representatives in Principal Cities

they have taken to make our first safety contest a success.

### Final Report

6 Months — Sept. 1, 1937 to Feb. 28, 1938

| Rank   | Unit Code | Man hours worked | Number of lost time accidents | Frequency rate          | Severity rate |
|--|-----------|------------------|-------------------------------|-------------------------|---------------|
| <b>Class A (Operating over 50,000 man hours)</b>           |           |                  |                               |                         |               |
| 1.   | C-2       | 161,907          | 0                             | 0                       | 0             |
| 2.   | P-7       | 85,940           | 0                             | 0                       | 0             |
| 3.   | F-21      | 75,000           | 0                             | 0                       | 0             |
| 4.   | F-13      | 57,108           | 1                             | 17.51                   | 0.12          |
| 5.   | F-5       | 51,068           | 1                             | 19.58                   | 0.25          |
| 6.   | C-23      | 147,866          | 6                             | 40.57                   | 0.58          |
| <b>Class B (Operating from 35,000 to 49,999 man hours)</b> |           |                  |                               |                         |               |
| 1.   | F-9       | 36,937           | 0                             | 0                       | 0             |
| —  | D-22      | 48,952           | 0                             | (Not competing for cup) | 0             |
| 2.   | D-3       | 36,776           | 0                             | 0                       | 0             |
| 3.   | F-20      | 45,325           | 1                             | 22.06                   | 0.06          |
| <b>Class C (operating less than 35,000 man hours)</b>      |           |                  |                               |                         |               |
| 1.   | K-1       | 32,151           | 0                             | 0                       | 0             |
| 2.   | F-10      | 31,223           | 0                             | 0                       | 0             |
| 3.   | F-18      | 31,031           | 0                             | 0                       | 0             |
| 4.   | H-4       | 23,320           | 0                             | 0                       | 0             |
| 5.   | P-14      | 11,656           | 0                             | 0                       | 0             |
| 6.   | P-11      | 25,950           | 1                             | 38.92                   | 3.58          |
| 7.   | P-6       | 13,336           | 1                             | 74.98                   | 0.49          |
| Total  |           | 915,546          | 11                            | 12.01                   | 0.22          |

Frequency rate—The number of lost time accidents per one million man hours worked.

Severity rate—Number of lost time days per 1000 man hours worked.

KEEP UP THE GOOD WORK. HELP YOUR GROUP TO GO THROUGH THE ENTIRE YEAR 1938 WITHOUT ACCIDENT.



## Danger



# The Flood Approacheth

Anticipating the largest winter wheat crop (with one exception) in the last fifteen years, railroads throughout that territory have already initiated plans for the handling of this heavy movement of grain to elevators and marketing centers without delay and without interfering with the flow of other traffic.

Based on the latest crop report of the U. S. Department of Agriculture, which indicates that the winter wheat crop this year will aggregate 754,707,000 bushels, an increase of approximately six per cent over last year's production and a third greater than the average for the last ten years, the Car Service Division of the Association of American Railroads has concentrated an unusually heavy supply of box cars in the winter wheat producing states.

## Deluge in Offing

This year's winter wheat estimates by the government compare with 685,102,000 bushels produced last year and 546,396,000 bushels for the last ten-year average. Production in the Southwest is expected to reach 385,143,000 bushels this year; Illinois, Indiana, Ohio and adjacent territory, 122,872,000 bushels, and Montana, Idaho, Washington and Oregon, 73,734,000 bushels.

The winter wheat production in the Southwest is so large and comes in such tremendous volume over so short a period that the railroads will have to accumulate and store in this territory from 40,000 to 50,000 box cars especially suitable for grain loading.

## Early Movement

The southwestern winter wheat crop

moves early and, while it has frequently taxed the capacity of available railroad equipment within the territory, through the A. A. R. Car Service organization (with its car service agents in the field checking the entire operation) other railroads throughout the country have made their equipment available so that when the grain ripens and begins to pass through the huge modern combine machines, an adequate supply of cars is ready for immediate loading.

Throughout the harvest and regardless of Sundays or holidays, thousands of cars are loaded daily, dispatched to elevators, the grain inspected and weighed by local, state and federal authorities, and upon being unloaded, the cars are returned immediately for additional grain loadings. In this way and with the full cooperation of the producer, elevator operators and others, the crop has been successfully handled in recent years.

## ANOTHER BOOSTER PASSES AWAY

Mr. E. A. Boyd, outstanding figure in the Pacific Northwestern grain and grain processing business with headquarters at Spokane, Washington, past active president of the Pacific Northwest Grain Dealers Association and a past director of the Grain & Feed Dealers National Association, passed away suddenly this month. Mr. Boyd had long been an enthusiastic booster of the Elevator Superintendents' Association.

The preparatory measures taken through the Car Service Division have avoided the terminal congestion which otherwise would have occurred. As soon as the crop of one section has been moved to market, the same organization transfers its activities to another section until the entire crop has been harvested and moved into elevators, or otherwise binned, for future consumption.

While this year's total winter wheat crop according to present indications will be approximately 69,605,000 bushels greater than last year, it is expected that it will be handled without the issuance of any drastic orders on the part of the railroads.



## NEED A BIG CLUB

"Inasmuch as I couldn't get to the Kansas City convention," wrote Frank A. Peterson of Norris Grain Company, Baltimore, Maryland, "I sent a club instead. Some folks call them gavels but in my opinion at a convention of elevator-men a fellow needs a club to call the meeting to order and to keep 'em in order by force of arms."

"Anyhow I sent the convention this teakwood gavel made by me in the hope that it could be used in opening the meeting at Kansas City. Had hoped, and since have heard, that the meeting was the best ever held and that much good arose from the discussions."

The teakwood in this most serviceable and welcome "instrument" which Mr. Peterson sent the Kansas City convention came from a piece of decking on the Dollar liner "President Hoover." The convention passed a hearty vote of thanks for Mr. Peterson's fine masterpiece which so excellently replaces the historic battered wood hammer previously used.

## OUR BOOMING TRADE IN CORN

Recent sales of corn indicate that more than a hundred million bushels of the 1937 crop will be sold abroad. Since last November more than 70 million bushels have been exported and since April 1 more than 24 million. Only eight times before in our history have corn exports been so large.

The recovery of the foreign market for corn is good news, the more welcome because of the scarcity of such items in recent months. The farmers are the first to benefit but by no means the only ones. Corn moves from the farm to the elevators in trucks and railroad cars; the truckers, the railroad men, and the elevator men all are helped by the added business. So are the sailors and the owners of the ships which

carry the corn from Chicago and other terminals to eastern ports. So are a host of clerks, dock workers, and others who play a large or small part in this commerce.

The AAA has proceeded on the theory that the export market is gone forever; acreage restrictions are in line with that notion. The movement of corn to foreign consumers proves the theory to be false. The market is there and in supplying it not only our farmers but thousands of other citizens who supply the services needed to move our crops from our farms to Liverpool are benefited. If the restrictions on corn planting imposed this year succeed in reducing our corn production, the farmers and all the others who play a part in the game will suffer needlessly.—*Chicago Tribune.*



## HIRE A CHEMIST, HALL URGES

"Mills don't like terminal elevator wheat," said John Hall, formerly of Washburn Crosby's Chicago plant recently in telling how the flour makers keep track of the characteristics of each new wheat crop on a map—and buy just the quality grain they want.

"The terminals could sell specialty protein wheat at a premium if it were binned according to milling quality, because much of the crop is lacking in distase. This requires a chemist on the elevator staff," he said, in hinting that the terminals have just started to scratch the surface in handling this crop.

## ★ ADULTERATION OF CORN UP

Adulteration of corn will be dragged out into the light at the June meeting of the Chicago chapter, according to announcement from President Jack Waterbury of Stratton Grain Company's Santa Fe elevator here, when the top authority of the Federal Grain Supervision Department will discuss this pertinent question.

The meeting, to be held at Lungren's Fish House back of the Lux soap factory in Roby, Indiana, is slated for June 14th so as not to conflict with the annual convention of the Association of Operative Millers which so many from here plan to attend.

In addition, Barley Weller and Bill Gassler are heading up a committee to wind up the year's winter meetings with an Associates' Night program at which seventy-five are expected. Transportation from Chicago's loop is being arranged for visitors and suburbanites.

## ★ SAFETY MANUAL BEING PREPARED

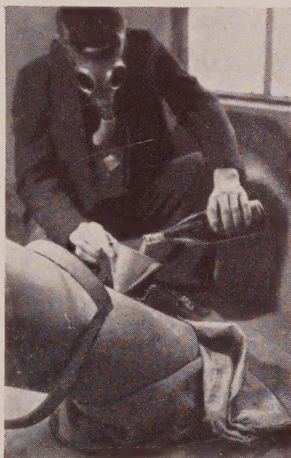
The Safety Committee, losing no time following adjournment of the SGES convention, has prepared a Safety Manual for distribution to those entering the Second Annual Safety Contest. Prior to such circulation, however, the Committee is anxious to obtain the opinions of every other Association member interested in accident and injury prevention. To this end they ask that those willing to co-operate submit their names to the Committee, P. O. Box 261, Duluth, Minn. — Clarence W. Turning, Contest Director.

## ROUT THE BUG ARMY so it CAN'T COME BACK

Begin by having Clean Storage Bins.

Treat Bin Bottoms with a pint to a quart of LARVACIDE, poured into empty bins through top opening.

Do this and there'll be no contamination of incoming grain. Usually a weekend job.



No special equipment is needed for LARVACIDE. No fire or explosion hazard. Unequalled penetration. LARVACIDE penetrates every berry in every bushel. This method not only ROUTS THE BUG ARMY so it can't come back—but it saves you money into the bargain.

## Larvacide

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*Boosting for Safety is like kissing  
your wife — it prevents trouble.*

### POULTON AND HAYHOE APPOINTED

Through an oversight, the vacancies created on the Directorate when Vice Presidents Manning and Lane were elevated were not filled. Therefor I appoint Percy Poulton of N. M. Patterson & Company, Ltd., Fort William, and James G. Hayhoe of Cargill, Incorporated, Minneapolis, to serve as Directors for two years.—E. J. Raether, President.



Treat grain stream about every 15 minutes at the rate of 2 fluid ounces of LARVACIDE for each 100 bushels—a little extra for first and last hundred bushels.

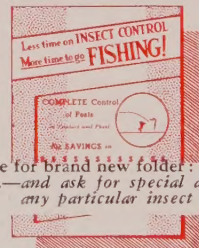
This procedure is:

**EFFICIENT** . . . . .—It kills eggs and larvae as well as adults.

**ECONOMICAL** . . . . .—Treats the bin space as well as the grain itself.

**NON-CONTAMINATING**—Has no effect on milling or food qualities.

**SAFER** . . . . .—LARVACIDE's self warning protects your men.



Write for brand new folder:  
P. S.—and ask for special advice on  
any particular insect problem.

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*There are several kinds of belts —  
but they all go around; some are  
endless, some are tight. some are  
dangerous.*

### VISITING LADIES' THANKS

The visiting ladies attending the recent Kansas City convention extend their sincere thanks for the many courtesies extended them during their delightful stay in your grand city.—Mrs. S. S. Orstad, Fort William, Chairman.



*Where would you be -*  
if your ELEVATOR



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